



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/584,860

09/08/2006

Roeloeff Marissen

4662-215

7823

23117 7590 08/31/2010
NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER

WOOD, ELLEN S

ART UNIT

PAPER NUMBER

1782

MAIL DATE

DELIVERY MODE

08/31/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/584,860	Applicant(s) MARISSSEN, ROELOEF	
	Examiner ELLEN S. WOOD	Art Unit 1782	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13 and 16-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13 and 16-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's arguments, filed 06/04/2010, with respect to claim 13 have been fully considered and are persuasive. The rejection of claim 13 rejected under 35 U.S.C. 102(b) as being anticipated by Benjamin et al. (GB 1386953, hereinafter "Benjamin") has been withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 13, 16-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhatnagar et al. (US 6,846,758, hereinafter "Bhatnagar") in view of Benjamin et al. (GB 1386953, hereinafter "Benjamin").

In regards to claims 15-16, Bhatnagar discloses wrinkle-free woven fabric laminates having superior resistance to penetration by ballistic projectiles, assemblies, thereof, and the method by which they are made (abstract). The fabric laminate is considered at least one ply containing polymeric fibers. The yarns and fabrics of the invention may be comprised of one or more different high strength fibers (col. 6 lines 47-50). The yarns comprising the fabric component of the inventive laminates may be from different denier (col. 6 lines 1-5). Bhatnagar discloses that the skilled man will readily

Art Unit: 1782

find the best yarn count for each fiber material, yarn denier and filament denier by experimentation (col. 5 lines 29-31).

Bhatnagar is silent with regards to the object exhibiting in different locations a different mean fibre diameter which is a diameter common to a majority of fibres, with a different between greatest and smallest mean values of different mean fibre diameters is at least 7%.

Benjamin discloses a molded hollow article, such as a a helmet, which comprises heating a sheet of thermoplastics polymer to a temperature between $X^{\circ}\text{C}$ and $(X-35)^{\circ}\text{C}$ where X is the crystalline melting point of crystalline polymers, claming the sheet at its periphery be means of heated clamping rings and pressure slip-forming the sheet around a mold (pg. 2 lines 114-125). Fig. 1 shows a curved object in one or more directions. The method in the which the helmets are formed are substantially identical to that of the applicant, thus the method would produce objects exhibiting in different locations a different mean fibre diameter which is a diameter common to a majority of fibres, with a different between greatest and smallest mean values of different mean fibre diameters is at least 7%.

It would be obvious to one of ordinary skill in the art to combine the manufacturing of the ballistic articles of Benjamin to form an object exhibiting in different locations a different mean fibre diameter which is a diameter common to a majority of fibres, with a different between greatest and smallest mean values of different mean fibre diameters is at least 7% with the woven fabric laminates of Bhatnagar, because the method of Benjamin to form an object exhibiting in different locations a different

Art Unit: 1782

mean fibre diameter which is a diameter common to a majority of fibres, with a difference between greatest and smallest mean values of different mean fibre diameters is at least 7% provides enhanced manufacturing of curved objects.

In regards to claim 17, Bhatnagar discloses that polymer fibers are chosen from polyolefin fibers, polyvinyl alcohol fibers, polyamide fibers, polyester fibers (col. 6 lines 55-61).

In regards to claim 18, Bhatnagar discloses that the yarns having a tenacity equal to or greater than 400 g/d and an energy-to-break equal to or greater than about 27 J/g (col. 6 lines 25-46).

In regards to claim 19, Bhatnagar discloses that they are made ultra high molecular weight polyethylene fibers (col. 7 lines 1-10).

In regards to claims 20-21, Bhatnagar discloses that the cross-overs in cross-ply unidirectional composites (col. 4 lines 53-55). The plies are laminated together in a stacked array (col. 4 lines 29-33).

In regards to claim 22, Bhatnagar discloses an elastomer is added to the polymeric ply in an amount of 10% by weight (col. 9 lines 25-28).

In regards to claim 23, Bhatnagar discloses that the laminate has a thickness thinner than 0.1 mm (examples 5 and 8).

In regards to claim 24, Bhatnagar discloses that the laminates are used for ballistic resistant articles such as helmets, panels, and vests (col. 1 lines 53-55).

Response to Arguments

Art Unit: 1782

4. Applicant's arguments with respect to claims 13 and 16-24 have been considered but are moot in view of the new ground(s) of rejection.

5. The examiner would like to note that the rejection of claims 15-24 in the previous office action dated 03/05/2010 was not a rejection based on both Benjamin (GB 1386953) and Bhatnagar et al. (USP 6,846,758). The 35 U.S.C 103(a) rejections were based on Bhatnagar et al. solely because claim 15 was independent from the independent claim 13. The examiner has made a new ground(s) of rejection wherein the primary reference in Bhatnagar and the secondary reference Benjamin is used primarily for the method in which thermoplastic hollow articles are produced, because the applicant has amended the claims to delete the independent claim 15.

6. Claims 14 and 15 have been canceled.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 1782

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELLEN S. WOOD whose telephone number is (571)270-3450. The examiner can normally be reached on M-F 730-5 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571)272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ELLEN S WOOD/
Examiner, Art Unit 1782

/Rena L. Dye/
Supervisory Patent Examiner, Art Unit 1782

Application/Control Number: 10/584,860
Art Unit: 1782

Page 7